

REMARKS/ARGUMENTS

Claims 35-45 are currently pending in this application. Claims 1-34 are canceled without prejudice.

Claim Rejections - 35 USC § 103

Claims 35-45 are rejected under 35 USC § 103(a) as being unpatentable over Quick Jr. (US 5,673,259) in view of Rezaiifar et al. (US 6,377,809).

The pending claim 35 recites “a code division multiple access (CDMA) user device comprising a transceiver configured to communicate over a plurality of wireless channels with a transmitter in a base station; and the transceiver is further configured to receive data traffic from at least one data buffer in the base station over a data channel and to receive control data indicative of a data rate associated with the data traffic over a control channel; wherein the transceiver is dynamically assigned additional data traffic channels for receiving data traffic based on an urgency factor indicative of the urgency of the data traffic to be transmitted from the at least one data buffer in the base station.”

The Examiner states on page 3 of the Office Action that “Quick further discloses a searcher reservation scheme which uses a priority (urgency factor) assignment algorithm based on type...and amount of traffic in the queues (buffer)...wherein device receiving data traffic on at least one “dedicated channel”

(see col. 9, lines 50 through col. 10, lines 1-4).” Quick Jr. at col. 9 line 50 to col. 10 lines 1-4 discloses:

“Thus, the user 202 must obtain a searcher assignment before the transceiver 206B will receive data packets from the user 202. As a result, because each system user does not have its own permanently assigned and unique searcher, each user need not have its own personal searcher, thereby reducing the number of searchers 210 required at each cell site 108. There need only be sufficient searchers 210 to handle the anticipated user load on the system, which is a function of the anticipated maximum number of total data packet users that will attempt to simultaneously send data packet transmissions. If this maximum number of users is exceeded, i.e., all channel(s) for communicating data packets are busy, any user that receives a busy signal will be placed in a queue to be assigned a free searcher. The user 202 does not have to place a request for the free searcher each time it has data to send. Rather, the searcher reservation scheme of the present invention will leave the free searcher assigned to the user 202 between data packets sent by user 202. The searcher reservation scheme of the present invention, which uses a priority assignment algorithm to handle outstanding requests from users to reserve a searcher, will be described in detail below.”

The searcher reservation scheme of Quick Jr. is used for handling requests from users to reserve a searcher, which is not the same as the urgency factor of the pending claims. The pending claims recites “urgency factor indicative of the urgency of the data traffic to be transmitted from the at least one data buffer in the base station,” which Quick Jr. fails to teach or suggest.

The Examiner further states on pages 3-4 of the Office Action that Quick Jr. discloses support for “urgency” for a mobile to receive User ID. Applicants respectfully disagree. In the Office Action, the Examiner cites col. 23 lines 4-23 which states as follows:

“The base station then examines the User ID list to determine whether or not it is empty (Step 1328). If the User ID list is not empty, the base station reassigns the searcher to the waiting mobile station, executes Step 1324, and then enters the Active State 1316. If the User ID list is empty (Step 1328), a Ready Notification Signal is sent to the global searcher control (Step 1330) indicating that the mobile has exceeded its wait time and that no available User ID exists. The base station then enters the Ready State 1332, which indicates a greater urgency for the mobile to receive a User ID. When a User ID becomes available, the global searcher control then generates a User ID Notification Signal (Step 1334), notifying the base station of the available User ID. The base station then reassigns the searcher from a mobile having an assigned User ID that exceeds its usage allocation, in accordance with its assigned relative priority, to the waiting mobile station. The base station sends a User ID Assignment Message on the Packet/Paging Channel to the waiting mobile station (Step 1336). The mobile station then enters the Active State 1316.”

According to Quick Jr. the term “urgency” refers to urgency for a mobile to receive a user ID. In order for this urgency to be satisfied, Quick Jr., requires a search element which refers to a sliding correlator receiver that continually scans a time

domain window in search of a particular user's information signal, (see col. 8 lines 4-6). A searcher is assigned to search for a user specific long code only when the user initiates a data transmission session, (see col. 8 lines 24-30). The user must obtain a searcher assignment before the transceiver will receive data packets from the user...as a result, the searcher reservation scheme will leave a free searcher assigned to the user between data packets sent by the user, (see col. 9 lines 50-67). Quick Jr. discloses "searcher reservation scheme," which is not the same as the limitation of the pending claims citing "urgency of the data traffic to be transmitted from the at least one data buffer in the base station." Therefore, Quick Jr. fails to teach, disclose, or suggest the limitations of the claim 35.

Further, the Examiner, on page 4 of the Office Action, states that Rezaiifar discloses "channel structure for communication systems utilizing two sets of physical channels including data channel and control channel. The control channel is used to carry control data indicative of a data rate associated with the data traffic. At the time of invention, an artisan in the pertinent field would have realized the intended invention utilizing the channel structure as discussed."

In the Office Action, the Examiner cites col. 8 lines 57-64 and col. 9 lines 33 to col. 10 lines 1-5 of Rezaiifar, which states as follows:

VIII. Forward Control Channel

In the exemplary embodiment, the control channel is a

fixed rate channel associated with each remote station 6. In the exemplary embodiment, the control channel is used to transmit power control information and short control messages for the forward and reverse link schedule (see FIG. 3). The scheduling information comprises the data rate and the transmission duration which have been allocated for the forward and reverse supplemental channels.

IX Control Channel Frame Structure

The exemplary control channel frame formats for the forward and reverse link schedules are shown in Table 1 and Table 2, respectively. Two separate scheduling control channel frames, one for the forward link and another for the reverse link, allow for independent forward and reverse link scheduling.

In the exemplary embodiment, as shown in Table 1, the control channel frame format for the forward link schedule comprises the frame type, the assigned forward link rate, and the duration of the forward link rate assignment. The frame type indicates whether the control channel frame is for the forward link schedule, the reverse link schedule, the supplemental channel active set, or the erasure-indicator-bit (EIB) and fundamental frame indicator. Each of these control channel frame formats is discussed below. The forward link rate indicates the assigned data rate for the upcoming data transmission and the duration field indicates the duration of the rate assignment. The exemplary number of bits for each field is indicated in Table 1, although different number of bits can be used and are within the scope of the present invention.

In the exemplary embodiment, as shown in Table 2, the control channel frame format for the reverse link schedule comprises the frame type, the granted reverse link rate, and the duration of the reverse link rate assignment. The reverse link rate indicates the data rate which has been granted for the upcoming data transmission. The duration

field indicates the duration of the rate assignment for each of the carriers.

As seen in Figures 3 and 4 of Rezaiifar, the control channel is a physical channel that is related to the MAC layer and the physical layer in the logical channels. The system in Rezaiifar requires the transmission of a dedicated forward control channel to transmit scheduling information for both the forward link and the reverse link. The control channel frame structure, used in the forward control channel, includes a frame type indicator, an indicator identifying a granted reverse link rate, and indicator identifying the duration of the reverse link assignment. (see col. 10 lines 1-3). In contrast, Quick Jr. teaches a coding scheme that uses one channel (i.e., random access channel) to perform functions of both the data channel and the control channel (see col. 3 lines 41-44).

The system described in Quick Jr. requires digital transceivers for sending the digital data packet on a random access channel over the reverse link and for receiving the digital information from the forward link (see col. 3 lines 61-67). The system further requires a digital base station for receiving the digital data packet on the random access channel from the reverse link (see col. 4 lines 1-4 and Figure 2). Hence, Quick Jr. requires a random access channel (that is overlaid with control channels) for the reverse link as opposed to Rezaiifar, which requires both the control channel and the access channel separately for the reverse link

communication as seen in Figure 4. Therefore, the two references teach away from their combination.

Claims 36-45 are dependent upon claim 35, and the Applicants believe these claims are allowable over the cited references of record for the same reasons provided above.

Based on the arguments presented above, withdrawal of the 103(a) rejection of claims 35-45 is respectfully requested.

Applicant: Foore et al.
Application No.: 10/767,326

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephonic interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing remarks, Applicants respectfully submit that the present application is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Foore et al.

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